VOL. 98 NO. 1–3 DESALINATION 1994

CONTENTS

Session B-1: New Developments in Water Treatment Technology

Chairmen: Irving Moch Jr. (USA), Kenji Fujita (Japan)

Membrane applications in raw water treatment with and without reverse osmosis desalination
by B. Ericsson and B. Hallmans (Sweden) 3

Organic waste water treatment by activated sludge process using integrated type membrane separation
by O. Futamura, M. Katoh, and K. Takeuchi (Japan) 17

Treatment of wastewater and sludge by a catalytic wet oxidation process
by Y. Harada and K. Yamasaki (Japan) 27

Mechanical vapour compression to treat oil field produced water
by A. Koren and N. Nadav (Israel) 41

Waste water recycling technology using a rotary disk module
by N. Ohkuma, M. Ohnishi, and Y. Okuno (Japan) 49

New pretreatment systems using membrane separation technology
by M. Oinuma, S. Sawada, and K. Yabe (Japan) 59

KACST mobile drinking water treatment plant for research
by A.I. Alabdula'aly and A.A. Chammem (Saudi Arabia) 71

Potable water quality improvement for the city of Amsterdam
by H.A. van den Berkmortel and A. Graveland (The Netherlands) 83

Process options for nitrogen and phosphorus removal in domestic wastewater
by B. Ericsson (Sweden) 105

Effects of biological treatment conditions on permeate flux of UF membrane in a membrane/activated-sludge wastewater treatment system
by K. Ishiguro, K. Imai and S. Sawada (Japan) 119

Production of heavy oil from sewage sludge by direct thermochemical liquefaction
by S. Itoh, A. Suzuki, T. Nakamura, and S. Yokoyama (Japan) 127

Potabilization of desalinated water at Madinat Yanbu Al-Sinaiyah
by A.D. Khawaji and J.-M. Wie (Saudi Arabia) 135

Treatment of wastewater from phenolic resin process by pervaporation
by M. Kondo and H. Sato (Japan) 147

Water treatment by pitch-based activated carbon fiber
by N. Shindo, Y. Otani, G. Inoue, and K. Kawazoe (Japan) 155

Treatment of wheat starch waste water by a membrane combined two phase methane fermentation system
by C. Yanagi, M. Sato and Y. Takahara (Japan)..... 161

Session B-2: Environmental Protection by Water Technology
Chairmen: Krishnamurthi Rao (India), Tomonori Matuo (Japan)

Drainage water reuse or disposal, Jeddah, Saudi Arabia
by O.S. Abu-Rizaiza (Saudi Arabia) and H.Z. Sarikaya (Turkey)..... 173

Control of the nutrient pollution discharge from the Vistula River Basin in Poland
by B. Ericsson and B. Hallmans (Sweden)..... 185

Field test on a methane fermentation treatment system incorporating a membrane module for municipal sewage
by K. Kiriyama, Y. Tanaka, and I. Mori (Japan) 199

An advanced purification system combining ozonation and BAC, developed by The Bureau of Waterworks, Tokyo Metropolitan Government
by S. Muramoto and J. Nishino (Japan) 207

Small-scale sewage plant experiment by pretreatment and methanization of suspended solid
by M. Murata, H. Kimuro, N. Kanekuni, N. Ohkuma, H. Ogasawara, and T. Fujioka (Japan) 217

Management and construction of a major zero discharge water supply and treatment scheme at Mount Piper Power Station – Australia
by P. Wong, P. Docker, E. Gabbrielli, and P. Wade (Australia)..... 225

Treatment and disposal of saline wastewater from coal mines in Poland
by B. Ericsson and B. Hallmans (Sweden)..... 239

Simultaneous removal of DO and TOC in ultrapure water by using UV rays
by T. Saitoh, H. Nagai, M. Imai, K. Nakajima, and M. Tujimura (Japan) 249

Session B-3: Reuse of Wastewater
Chairmen: Neil M. Cline (USA), Motoyuki Suzuki (Japan)

Trends in domestic waste water treatment in Sweden
by B. Ericsson and B. Hallmans (Sweden)..... 259

Water Factory 21 – The logical sequence
by W.R. Mills, Jr. and I.C. Watson (USA) 265

A trial of high performance anaerobic treatment on wastewater from a kraft pulp mill
by K. Minami (Japan) 273

A novel new water source for Madras Fertilisers Ltd.
by A.G. Turner (Scotland), P.S. Neelakantan, and N. Gajendran (India) 285

Advanced water treatment (AWT) facility at Madras Refineries Ltd., Madras – sewage water reused
by J.C. Thomas (India) 295

Use of reverse osmosis in chlor alkali plant
by K. Gurumoorthy and T. Swaminathan (India) 303

Water recycling systems in Tokyo
by T. Udagawa (Japan) 309

Ultrafiltration membrane technology for regeneration of building wastewater for reuse
by T. Yokomizo (Japan) 319

Recycling of sewage treatment water by ozone
by T. Honda and Y. Kugawa (Japan) 327

Recycling of waste water from buildings by application of membrane
by T. Okada and O. Oba (Japan) 335

Session B-4: Water Technology for Industry

Chairmen: Emilio Gabbrielli (Australia), Masanao Hirai (Japan)

Treatment of concentrated cyanide wastewater
by M. Futakawa, H. Takahashi, G. Inoue, and T. Fujioka (Japan) 345

The development of membrane technology for wastewater treatment in textile industry in China
by J. Hao and Q. Zhao (China) 353

The use of hollow fiber filters to improve condensate purification efficiency in thermal power plants
by H. Koushiro and Y. Kubo (Japan) 361

Application of concentrator on the treatment of industrial waste water
by M. Miura and K. Harada (Japan) 375

Adaptation of the Multi-Effect Distillation (MED) process to yield high purity distillate for utilities, refineries and chemical industry
by A. Ophir and A. Gendel (Israel) 383

Advanced reverse osmosis membrane modules for novel ultrapure water production process
by T. Ikeda, H. Muragishi, R. Bairinji, and T. Uemura (Japan) 391

What every reverse osmosis water system manager should know
by D.L. Kronmiller (USA) 401

Process performance comparison of membrane introduced anaerobic digestion using food industry waste water
by Y. Yushina and J. Hasegawa (Japan) 413

Session B-5: Water Resources

Chairmen: O. Kris Buros (USA), Eiichi Mikami (Japan)

Water scarcity – The challenge of the future
by M.A.K. Al-Sofi (Saudi Arabia) 425

Extending water supplies in water short areas
by O.K. Buros and R.D.G. Pyne (USA) 437

The Virgin Islands desalination experience
by A. Bruno-Vega and K.S. Thomas (Virgin Islands) 443

Groundwater as a feedwater source for membrane treatment plants: Hydrogeologic controls on water quality variation with time
by T.M. Missimer (USA) 451

Water for peace master plan of the Jordan river system
by M. Murakami (Japan) 459

Economics of brackish and desalination water reuse for irrigation
by Z. Shimron (Israel) 471

Disaster (hurricane) preparedness. Public (water) utility
by G. Sheppard (USA) 479

Solar photovoltaic electrodialysis desalination for brackish water in remote areas
by N. Ishimaru (Japan) 485

Desalination in India – Experience and future prospects
by C.N. Raghupathi and T. Swaminathan (India) 495

Golf course construction plans and water quality preservation
by E. Shirahama and M. Kiyozuka (Japan) 505

Author index 513